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AUTHOR Bucciarelli, Claudio
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ABSTRACT

This document on Italy is one of a series of five published by the European Centre for the Development of Vocational Training. The document includes a preface, two major parts, and two appendices. Part 1, the Italian context, includes three chapters. The first chapter describes small and medium-sized enterprises (SMEs) and craft firms in the Italian context. The second chapter describes the new training needs of SMEs. Trends in the strategy for responding to the training needs of SMEs and the new role of distance training are described in the third chapter. Part 2, the survey, includes four chapters. The first chapter describes the interview and case history methods used. The second chapter identifies the demand for distance training in Italy from SMEs and craft firms. The supply of distance training in Italy for SMEs and craft firms is described in the third chapter. The fourth chapter presents conclusions. Appendix 1 includes the names of people and their agencies interviewed and the names of contributors to the research. Appendix 2 includes a brief glossary of terms and six references in Italian and French. (CML)

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CEDEFOP Document

Distance training for management and administrative staff in small and medium-sized enterprises and craft firms in Italy

European Centre for the Development of Vocational Training

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Distance training for management and administrative staff in small and medium-sized enterprises and craft firms in Italy

The study was conducted in cooperation with the Centro nazionale studi investimenti sociali (Censis) in Rome
The report was drawn up by
Claudio Bucciarelli
The project was coordinated by
Duccio Guerra (Cedefop)

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Introduction

The important role of small and medium-sized undertakings in the economy has created a growing interest in this sector.

At a time of recession, their flexibility has served as an economic buffer and, with economic revival, that flexibility is a decisive factor in their development.

The European economic area, indeed, is to a great extent made up of a close-knit fabric of small industrial firms, whose vital contribution to the creation of employment and wealth is clearly apparent from the statistics. It is hardly surprising that in formulating Community policies specific attention has been devoted to launching ventures in support of small industry, as typified by the programme of action for small and medium-sized enterprises (SMEs) adopted by the Council in 1986 and by the European Regional Development Fund, the European Social Fund and the setting up of a task force within the Commission of the European Communities to promote and administer a series of development and service measures to support SMEs.

There are many difficulties in setting up measures in favour of SMEs, the first being how to define the field. The parameters that have been used in the past to define small and medium-sized enterprises are no longer adequate, mainly because the dividing line between large and small concerns is based on the size of the work-force or the amount of invested capital.

Measures pertaining to vocational training are particularly complex to implement, for various reasons:

(i) firstly, it has not yet been fully realized that small firms are not a replica of large concerns in miniature, and that measures aimed at the latter will not be equally effective in meeting the training needs of the former;

(ii) in second place, investment in training implies programming and action in pursuance of medium-term corporate strategies, and such planning is sometimes beyond the capacity of small firms;

(iii) finally, small and medium-sized undertakings are rarely equipped to conduct their own internal training schemes, but at the same time they are by tradition wary of outside training.

The report presented here is based on a twofold assumption:

(a) that the success of the medium-sized and in particular the small firm depends to a great extent on the managerial abilities of the principal and the management staff, and therefore on their training;

(b) that, because small entrepreneurs are reluctant to be involved in collective training measures and have little time to devote to training themselves, distance learning might be a highly suitable method of training for this type of user.

In these circumstances, we felt that an effort should be made to find out about any distance learning that is targeted at a specific group such as the principals and management of small and medium-sized business and craft industry firms.

The purpose in so doing has been to 'measure' not so much the volume of the training that is available (we harboured no illusions as to its extensiveness) but the quality of that training, and above all the potential demand for and supply of distance learning.

Finally, we have sought confirmation for our belief that the avenue of transnational cooperation within the Community should be explored with far greater determination, especially as regards the use of distance learning for training.

The report, therefore, is part of a programme covering five Community Member States: Spain, France, the Federal Republic of Germany, the United Kingdom and Italy.

We see this first programme as the first step towards a whole series of measures designed to promote and support cooperation in the Community in the field of distance learning.

Duccio Guerra
Project manager.

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PREFACE

Following up on the Research Progress Report (May 1987), this Report represents the final phase in the research conducted by CENSIS on behalf of CEDEFOP on "Distance training for management and administrative staff in small and medium-sized enterprises and craft firms in Italy".

It is in two separate but correlated parts:

- **the first part** provides up-to-date information on small and medium-sized undertakings in Italy and surveys their changing training needs, the training strategies formulatedd by institutions an an effort to meet those needs and the actual and potential prospects for new training methods, including distance training;
- **the second part** describes the methods and findings of a survey on the demand for and supply of distance training for small and medium-sized enterprises and craft firms as they exist in Italy today.

The **Enclosures** are:

- a summary of the Final Report setting out the most significant points emerging from this research;
- a list of contributors to the research;

- a list of the "expert witnesses" interviewed and the agencies they represent;
- a "mini-glossary" explaining some of the terms used in the Report;
- bibliography consulted.

The companion to this Report (Book 1) is a Report (Book 2) analyzing the ongoing experience of distance training among small firms.

PART ONE:

THE ITALIAN CONTEXT

1. THE SMALL AND MEDIUM-SIZED ENTERPRISE AND THE CRAFT FIRM IN THE ITALIAN CONTEXT

1.1 The role of SMEs

The role of small and medium-sized enterprises (SMEs) in manufacturing industry in the Italian economy may be summed up by the three factors quantified in Tables 1 to 3:

a. In absolute terms: small and medium-sized enterprises (SMEs) with a work force of fewer than 100 people provide about 3 million jobs and generate approximately Lit.70,000 billion added value (Table 1);

b. In relative terms: in 1982, SMEs accounted for 57.6% of employment and 52.7% of added value in the manufacturing industries (Table 2);

c. In dynamic terms: the growth rate in terms of number of jobs provided and added value generated is positive among SMEs, and more buoyant than among larger concerns where the number of jobs provided is declining and the growth rate in added value is lower (Table 3).

Before looking at the sectorial aspect of SMEs in greater detail, it should be pointed out that in the present socio-economic context it is far from easy to obtain clear-cut parameters with a view to defining and circumscribing SMEs.

The traditional parameters were devised with sole reference to the industrial sector, which meant that a "small" or "medium-sized" enterprise was defined in the light of two basic parameters,

the number of persons employed, and
its turnover,

with slightly more emphasis on the former.

The extraordinary upsurge of the service sector shifted that emphasis and, in practice, in defining a firm its "turnover" became more important than "size of workforce".

Everyone today is convinced that the traditional parameters are outdated, but no practical working yardstick has as yet been found to replace them. It made sense to use the "size of workforce" parameter at a time when there was relative uniformity among firms within their respective sectors, but with today's greater differentiation that parameter is not as enlightening as before. Other parameters must be found, but for the time being this does not seem feasible due to lack of information.

1.2 **Structure by economic sector**

The following is a summary of the major industrial sectors in which "local units" (LUs) operate:

	1981		1971		% Variation
	LUs	%	LUs	%	
Timber & furniture	113,091	18.4	101,590	20.0	+11.3
Engineering products	100,272	16.3	78,484	15.5	+27.8
Footwear & clothing	99,819	16.3	105,378	20.8	- 5.3
Textiles	59,949	9.8	49,224	9.7	+21.7
Foods	39,692	6.5	40,457	8.0	- 1.9
Other sectors	201,802	32.8	150,817	26.0	-25.3
TOTAL	**614,625**	**100.0**	**507,950**	**100.0**	**-17.4**

This breakdown shows production structure to be less concentrated than in 1971. In that year, the first three sectors in the listaccounted for 56.3% of local units, whereas by 1981 the percentage had fallen to 51.0%. Only two of the first five sectors (engineering products and textiles) are expanding both in absolute terms and as a proportion of the whole. The other two are shrinking, either in relative terms (such as the furnishing industry) or in absolute terms (such as the footwear/clothing and food industries), significantly reducing their share of the total.

A preliminary finding, then, is that some of the more traditional sectors appear to be declining, whereas small but dynamic internal segments are growing, such as:

machines and engineering equipment, the number of units operating in this segment rising from 20,969 to 32,058 (+52.9%);

plant engineering, rising from 15,774 to 30,214 local units (+91.5%);

precision instruments and equipment, the number of units almost doubling from 3,911 to 10,330, a 164.1% increase;

tanning and paper technology (+53.6%).

It is apparent, then, that there is an internal redistribution in the manufacturing industries in favour of smaller but sophisticated segments, evidencing a move towards more "demanding" forms of production.

The structure by economic sector, in terms of numbers employed, reflects more or less the same picture·

the sectors in which very small enterprises feature most are, in order, engineering products (17.2%), furnishing (17.2%), footwear and clothing (14.0%), textiles (8.7%) and foods (7.8%);

among the medium-to-small local units, the largest proportion of jobs are to be found, in order, in footwear and clothing (15.3%), engineering products (14.2%), textiles (10.1%) machines and engineering equipment (9.8%) and furniture (9.1%);

compared with 1971, there has been a relative growth in engineering segments of industry, a decline in furniture and food and a varied pattern in textiles (an increase in the number of very small firms and a drop in the number of medium-to-small units) and in footwear and clothing.

Table 1 - Numbers employed and added value in the manufacturing industry - absolute figures - in current Lire

Year	Manufacturing industry in general (1)		Firms with workforce of up to 20 (2)		Firms with workforce of 21 to 100 (3)		Firms with workforce of more than 100 (4)	
	Jobs ('000)	Added value (billion)	Jobs ('000)	Added value (billion)	Jobs ('000)	Added value (billion)	Jobs ('000)	Added value (billion)
1978	5,605	67,566	2,153	22,761	857	9,727	2,595	35,078
1979	5,620	82,776	2,171	27,964	842	11,973	2,607	42,839
1980	5,652	103,354	2,256	37,814	824	14,886	2,572	50,654
1981	5,565	116,212	2,316	41,760	802	17,340	2,447	57,112
1982	5,459	133,326	2,374	50,727	772	19,525	2,313	63,074

Sources:
(1) National accounts
(3) and (4) Survey on gross product
(2) (1) - [(3) + (4)]

Table 2 - Numbers employed and added value in the manufacturing industry - percentage breakdown

Year	Manufacturing industry in general (1)		Firms with workforce of up to 20 (2)		Firms with workforce of 21 to 100 (3)		Firms with workforce of more than 100 (4)	
	Jobs	Added value	Jobs	Added value	Jobs	Added value	Jobs	Added value
1978	100.0	100.0	38.4	33.7	15.3	14.4	46.3	51.9
1979	100.0	100.0	38.6	33.8	15.0	14.5	46.4	51.7
1980	100.0	100.0	39.9	36.6	14.6	14.4	45.5	49.0
1981	100.0	100.0	41.6	35.9	14.4	14.9	44.0	49.2
1982	100.0	100.0	43.5	38.1	14.1	14.6	42.4	47.3

Sources: (1) National accounts

(3) and (4) Survey on gross product

(2) (1) - [(3) + (4)]

Table 3 - Numbers employed and added value in the manufacturing industry - Base indices: 1978 = 100 - Current Lire

Year	Manufacturing industry in general (1)		Firms with workforce of up to 20 (2)		Firms with workforce of 21 to 100 (3)		Firms with workforce of more than 100 (4)	
	Jobs	Added value	Jobs	Added value	Jobs	Added value	Jobs	Added value
1978	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1979	100.3	122.5	100.8	122.9	98.2	123.1	100.5	122.1
1980	100.8	153.0	104.8	166.1	96.1	153.0	99.1	144.4
1981	99.3	172.0	107.6	183.5	93.6	178.3	94.3	162.8
1982	97.4	197.3	110.3	222.9	90.1	200.7	89.1	179.8
1983	94.6	217.1						
1984	91.2	247.5						

Sources:
(1) National accounts
(3) and (4) Survey on gross product
(2) (1) - [(3) + (4)]

From a summary assessment that takes into account the very different patterns that can be discerned from the figures in Table 4, the following guidelines emerge:

there is widespread growth in employment among very small enterprises (the growth rate in 14 production categories is higher than the average), and more contained growth in the medium-to-small units (in 11 out of the 20 production categories the growth rate is higher than average);

the breakdown by major industrial sectors (Table 5) shows that there is an overall trend towards expansion in the engineering industry (both general engineering and car-related products), the situation being stable in the fashion-based industry (the propensity being towards growth in size of unit) and a decline in the furnishing industry.

Having quantified the SME situation in general, it is of interest to cite figures on craft firms separately, although the only source here is the 1981 general census of industry, commerce, service and crafts:

	Enterprises		Local units	
	Enterprises - Total	Craft enterprises	Local units - Total	Craft local units
Number	2,847,313	1,180,710	3,513,523	1,206,866
Employees	13,001,187	2,730,635	16,883,286	2,719,892

Although these figures refer to 1981, they are reasonably consistent with the fairly reliable estimate that there are 1,300,000 craft firms today, employing 3,000,000 people.

Table 4 - Percentage changes in SME employment between national censuses, by size of local unit and by sector

	1 - 9 employees	10 - 99 employees	Total
Production & processing of metals	33.1	2.5	-10.8
Non-metalliferous ores	5.1	- 3.0	2.4
Chemicals	43.2	16.3	6.2
Artificial fibres	311.3	407.6	-39.1
Engineering products	29.5	30.4	30.7
Machines & engineering equipment	65.7	50.1	31.8
Office machines & computers	12.8	158.4	-13.9
Plant construction & installation	91.4	39.2	21.2
Car production	99.5	34.7	12.5
Other forms of transport	118.2	38.9	41.9
Precision instruments & equipment	156.5	10.1	31.6
Basic foods	1.7	6.0	3.2
Sugar, soft drinks, tobacco	-10.3	-16.6	- 3.3
Textiles	37.0	7.1	- 8.9
Leather	70.9	43.0	45.3
Footwear/clothing	9.6	52.5	15.4
Timber and furniture	11.6	16.6	11.1
Paper and stationery	46.7	16.1	17.2
Rubber and plastics	57.7	35.9	13.9
Miscellaneous	67.5	17.6	23.1
TOTAL	26.6	24.1	12.2

Source: Censis calculations based on Istat figures

Table 5 - Breakdown of SME employment by major sectors of the manufacturing industry and by size of enterprise (% of total employment)

	1 - 9 employees		10 - 99 employees	
	1971	1981	1971	1981
Engineering	25.7	29.9	28.3	31.4
Cars and car-related	0.6	0.8	2.2	2.4
Fashion and fashion-related	25.9	25.0	27.1	27.6
Furniture	19.5	17.1	9.7	9.1
TOTAL manufacturing industry	100.0	100.0	100.0	100.0

Source: Censis calculations based on Istat figures

1.3 Geographical differentials

Besides observing the growth of the small enterprise and discussing its significance, a good deal of thought has gone into the geographical breakdown of development, the model of industrialization that has been created and the historic and social nature of training that lay at its origin and was shaped by it. It is a broad issue and this is not the place in which we could hope to tackle it.

Nevertheless, the important point is that the situation is one of industrial diversity. Some industries are concentrated in only a few local areas (to take tanning as an example, if we opt for a high threshold of over 4,000 employees we find only three areas of concentration (1)), whereas others are spread over very many local areas (in the footwear industry, taking the same threshold as for tanning, we find 23 areas of concentration).

The complex pattern of industrial concentration is evidenced by the figures in table 6, however approximate a guide they may be: taking only the small and medium-sized local units (with a workforce of 10 to 99), we find that there are 111 provinces with more than 4,000 people working in the same industry, 155 provinces with more than 3,000 people; at the lowest threshold of 2,000 employees, the number of provinces rises to 246.

---

(1) If the threshold is lower, we find 6 areas of local concentration, representing more or less all the leading tanning areas.

Especially at the highest threshold, it is merely a matter of coincidence that the number of provinces coincides with the number of areas of industrial concentration, as revealed by subsequent checks: some of the provinces contain more than one area of single-industry concentration, whereas other areas in which a single industry is concentrated extend over two provinces.

Table 7, showing the primary areas of single-industry concentration based on provinces in which more than 4,000 people work in that single industry, shows fairly eloquently how complex the situation is. It is even more complex when account is taken of:

- multi-industry concentrations based on a lower threshold, which are common in areas where development has been on a wide scale;
- the dimensional continuity of the industrial fabric: if, in addition to the medium- and small-sized local units, we take the larger and the smaller local units into account, the number of areas of single-industry concentration is even higher (2).

---

(2) It is illuminating that a recent report, Industrializzazione diffusa in Lombardia, Milan 1983, identifies 28 local production systems in Lombardy alone.

Table 6 - Provinces with single-industry concentrations of SME* employees, listed by industry and total number of employees in that industry

	Threshold		
	≥ 4,000 employees	≥ 3,000 employees	≥ 2,000 employees
Production & processing of metals	1	2	4
Non-metalliferous ores	5	11	21
Chemicals	1	2	6
Artificial fibres	-	-	-
Metal products	17	22	25
Machines & engineering equipment	14	17	25
Office machines & computers	-	-	-
Plant construction & installation	4	9	14
Car production	1	1	2
Other forms of transport	-	-	-
Precision instruments & equipment	1	1	2
Basic foods	1	3	8
Sugar, soft drinks, tobacco	-	1	1
Textiles	13	17	20
Leather	3	4	5
Footwear/clothing	20	33	42
Timber and furniture	11	18	31
Paper and stationery	4	6	14
Rubber and plastics	4	5	10
Miscellaneous	2	3	6
TOTAL	11	155	246

* with a workforce of 10 to 99

Source: Censis calculations based on Istat figures

Table 7 Rough approximation of the primary areas of concentration of a single industry (areas in which 4,000 or more people are employed by companies with a workforce of 10 to 99 in that industry)

Industry	Province	Town
Metal production and processing	Milan	Milan and surroundings
Non-metalliferous ores	Florence	Florence, Sesto Fiorentino
		Empoli, Montelupo
	(Modena	Sassuolo, Scandiano
	(Reggio Emilia	
Chemicals	Milan	Milan and surroundings
Metal products	Milan	Milan and surroundings
	Turin	Turin and surroundings
	Brescia	Brescia
		Lumezzane
		Val Trompia
	Como	Lecco, Olginate
	Bergamo	Lovere
	Bologna	Bologna and surroundings
	Varese	Saronno
		Busto Arsizio
	Padua	Padua
	Treviso	Castelfranco Veneto
	Novara	Omegna
	Naples	Naples
	Florence	Florence, Prato
	Reggio Emilia	Reggio Emilia
	Modena	Modena
	Verona	Verona
	Rome	Rome
Machines and engineering equipment	Milan	Milan and surroundings
	Turin	Turin and surroundings
	Varese	Busto Arsizio
	Brescia	Brescia
		Lumezzane
		Palazzolo
	Modena	Modena
	Vicenza	Schio
	Bergamo	Treviglio
	Reggio Emilia	Reggio Emilia
	Como	Como
		Lecco
	Novara	Novara
	Padua	Padua
	Florence	Florence, Calenzano
Plant construction and installation	Milan	Milan and surroundings
	Turin	Turin and surroundings
	Rome	Pomezia, Rome
	Bergamo	Bergamo
Car production	Turin	Turin surroundings
Precision instruments & equipment	Milan	Milan surroundings
Basic foods	Milan	Milan and surroundings

Industry	Province	Town
Textiles	Florence	Prato
	Varese	Busto Arsizio
	Como	Como
	Vercelli	Biella
	Milan	Milan and surroundings
	Modena	Carpi
	Brescia	Brescia
	Vicenza	Schio, Valdagno
	Treviso	Conegliano, Vitt. Veneto
	Turin	Chieri and Turin
	Novara	Novara
	Mantua	Castelgandolfo
Leather	Vicenza	Arzignano
	Florence	Florence
	Pisa	Santa Croce, San Miniato
Footwear/clothing	Florence	Florence, Empoli
	(Ascoli Piceno	Fermo, Civitanova
	(Macerata	
	Milan	Milan surroundings
	Naples	Naples and surroundings
	Padua	Padua
	Bergamo	Bergamo
	Verona	Verona, Bussolengo
	Vicenza	Valdagno
	Pisa	Valdarno
	Bari	Barletta
	Perugia	Corciano
	Treviso	Montebelluna
	Pistoia	Monsummano
	Vicenza	Varese
	Pavia	Vigevano
	Arezzo	Arezzo, Montevarchi
	Bologna	Bologna
	Teramo	Val Vibrata & coastal area
	Forli	San Mauro Pascoli, Forli and Rimini
	Novara	Borgomanero, Oleggio
	Como	Area of Como
	Modena	Carpi
	Lucca	Lucca
Timber and furniture	Milan	Brianza
	Treviso	Treviso and Piave valley
	Udine	Manzano
	Pesaro	Pesaro
	Como	Cantù
	Pordenone	Pordenone and S. suburbs
	Verona	Bovolone, Cerea
Paper and stationery	Milan	Area of Milan
	Turin	Turin
		Settimo Torinese
	Verona	Verona
Miscellaneous	Milan	Milan
	Vicenza	Vicenza

1.4 Relations between the SME and the large company

From the comments up to this point, it can be concluded that the relationship between small and large enterprises is not a major issue when considering SMEs. There are relationships, however, and they one of two forms:

- simple sub-contracting, when a small firm supplies a large company with components, semi-finished goods or finished products in competition with other small and medium-sized firms. For its part, the small firm may specialize in a single phase of the production cycle, or it may manufacture the same end product as that made by the large company, offering extra production capacity when market demand is at its peak;
- skilled sub-contracting, when there is a preferential relationship between the large company and the small firm, which usually specializes in highly skilled processing work or products; here the responsibility for the small firm attaining the requisite level of technical and organizational expertise is assumed by the large concern.

1.5 The aims of SMEs as revealed by recent research

A recent survey (3) on a sample of 450 firms, covering 15 socio-economic areas selected because of the strong presence there of certain manufacturing industries (basic foods, machine tools, leather), throws light on the most significant short- and medium-term objectives for the SMEs in its sample.

All the firms were of one mind in listing as one their major objectives the expansion and consolidation of their markets. Essentially, this is further confirmation of what has already been pointed out: a very similar policy on market penetration is currently being implemented by all firms - large, medium-sized and small - and it is unlikely that the situation will change in the near future.

Furthermore, the firms do not regard either market - foreign or domestic - as more important than the other, showing that their approach is more open-minded than might have been expected.

The other major objective for the companies interviewed seems to be to improve what they produce. Nevertheless, the question put to the sample regarding the objective of producing a more differentiated range of products clearly highlights the distinctions between the behaviour patterns of companies of different sizes.

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(3) CENSIS-UNIONCAMERE, Rapporto 1985 sullo stato delle economie locali [1985 report on the state of local economies], F. Angeli, 1985.

Whereas small and medium-sized enterprises merely aim to improve quality and, in so doing, try to establish themselves on the market firmly enough to be able to produce on a large enough scale, the larger companies combine this objective with the aim of creating a greater variety of products, placing a measure of reliance on a "flow diagram" that will rationalize their production processes.

Office automation is a matter of concern mainly to the smaller units, whilst the automation of production work is a more important objective for the larger concerns.

The attitudes adopted by medium-sized concerns are less standard: sometimes they regard themselves as closer to smaller firms, sometimes as having more in common with larger units. The question of innovation in organization looms larger for this type of firm, because it is growing and has to tackle problems of a structural kind. The medium-sized firms are also those that place a greater emphasis on training and on finding good executives and managers.

The final conclusion clearly emerging from the survey as a whole is that firms break down into three groups:

(1) the first, consisting of small firms (with up to 19 employees, is very homogeneous, its characteristics being:
   - its wide but imbalanced, penetration of domestic markets and a reasonable level of foreign trade;
   - its substantial recourse to basic services from outside, essentially in the form of external consultancy;
   - a low level of technological innovation;
   - easy access to ordinary credit but difficulty in tapping special credit.

(2) the second, consisting of firms with 20 to 249 employees, is a far from homogeneous group in which the the smaller firms are dynamic but the larger companies somewhat uncertain, possibly because they are passing through a stage of growth and internal reorganization. The characteristics of this group are:

- geographical and structural balance in their penetration of domestic and foreign markets;
- a variety of recourse to support in the form of services: smaller firms, like those in the first group, call on basic outside consultancy, while the larger concerns tend to have their own internal departments, some of them sophisticated, or to call in outside units;
- the introduction of new technology only in certain leading-edge areas;
- difficulty in obtaining access to special credit.

(3) the third, consisting of firms with 250 or more employees, is more advanced in all of these respects. In more detail, its characteristics are:

- its evenly spread market, which is balanced both geographically and in clientele;
- its internal provision of services or, where it does not provide services itself, recourse to outsiders, so that it covers every aspect of the services it needs;
- a higher level of technological innovation, including the most sophisticated forms of new technology;
- easy access to both special and ordinary credit and ease in funding its investments;
- an efficient information system within the company organization.

In these circumstances, it would not be unreasonable to say that a move towards significant change and renewal is emerging within local entrepreneurial systems.

Table 8 - Main objectives stated by companies interviewed - breakdown by size of workforce - replies as % of total number of comanies)

Objectives	Size of workforce					
	10-19	20-49	50-249	250-449	≥500	Total
Acquire new export markets	45.9	59.1	66.7	41.7	83.3	55.6
Upgrade products	61.0	60.1	68.1	66.7	16.7	61.3
Broaden range of products	11.9	15.8	11.6	25.0	33.3	14.2
Consolidate domestic markets	60.4	53.7	50.7	50.0	66.7	55.8
Organizational innovation	11.3	13.3	24.6	8.3	16.7	14.2
Production automation	13.2	23.2	26.1	16.7	50.0	20.2
Office automation	16.4	17.2	10.1	16.7	16.7	15.8
Management training	2.5	1.0	1.4	25.0	-	2.2
Locate executive staff	2.5	1.5	1.4	8.3	-	2.0
Other objectives	1.9	4.4	7.2	16.7	-	4.2
No reply	1.3	1.1	-	-	-	0.9

Source: Censis-Unioncamere survey, 1985

2. NEW TRAINING NEEDS OF SMALL AND MEDIUM-SIZED ENTERPRISES

2.1 The resurgence of the human factor

In research on SME training and retraining, the main methods of improving professionalism and the directions in which that professionalism is moving should be analysed, in however general the terms.

The public debate among practitioners in this field, experts, etc., and some of the training ventures that have already been launched are evidence of a renewed concern within the business world for improving employees' skills, in other words for the human factor as one of the resources making up a company's life cycle.

This resurgence of interest is not just a change of attitude, and still less is it attributable to the whims of fashion. It has been brought about by several factors, some of them very disparate, although all have a cardinal element: the new work-automating technologies that companies have been acquiring in the 1980s. Those factors can be identified as:

- a manifest failure of both vocational training and higher secondary education agencies to produce people with the requisite technical background. In other words, the needs of the main "user" of the output of the educational system - the working world - are not being met. It could be added that the two "systems", education and business, are guided by radically different thinking. The task of the educational system is to run a public service; the criterion for the working world is efficiency, one that readily lends itself to quantitative measurement.

- the introduction of new technologies, resulting in the gradual disappearance of simple, compartmentalized, low-skill manual jobs and the emergence of the roles of monitoring, process control or management and typically "service-sector" jobs within the company. This calls for a broader overall vision of the process from those working within a company.
- a tendency for the system to be company-centred: the individual company has once again become the focus of development, and not only local areas and industries but even individual entrepreneurial units have become highly selective. At the same time, greater social value is being attached to the entrepreneur, the willingness to take risks, professionalism and individual self-assertion.
- a gradual shift towards the service sector in entrepreneurial enterprise, more attention being directed towards the "trappings" of production (research, marketing, finance, merchandising, organization and information). The intangible side of transactions betweeen parties is gradually being developed, making a marked impact (and even more so in the future) on behaviour patterns, jobs, social values and the way individuals and groups see themselves.
- a broadening of demand for higher quality, manifested in the entrepreneurial approach to the choice of markets and production factors (technology, services and human resources), the combination of which will help to optimize the product and meet the demand for middle- and top-level quality regardless of cost.
- a tendency towards continuous innovation, not just in products but also in processes, organization, information and finance; innovation is regarded as an endless process and part of an unbroken chain of change.

- a tendency for the production system gradually to become more international, finally spreading even to small and medium-sized firms. According to a recent survey (1), one third of SMEs say they have engaged, or are about to engage, in some form of international transaction that is more sophisticated than conventional importing or exporting, such as reaching agreements on production or sales in another country or the setting up of joint ventures with foreign operators.
- finally, the trend towards a qualitative improvement in entrepreneurialism and management. Faced with the new cycle of production, management is forced to develop skills in combining production factors. It has to break production processes down and then build them up again, judiciously assigning some tasks outside the company and deciding which should still be done internally. This changes the nature of the company, which may now be engaged on service-sector rather than industrial tasks or which, due to the rationalization of technology, may find it profitable to bring back production work into the company.

The factors outlined above refer to certain general trends in the production system as a whole, but they are just as applicable to a narrower field, that of SMEs. Taken as a whole, they are substantially changing the very methods of work and production within the enterprise.

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(1) CENSIS/UNIONCAMERE Survey: "V° rapporto sullo stato delle economie locali" [Fifth report on the state of the local economies], 1986

In the final analysis, this substantial change has made the Taylor-style division of labour - with its rigid separation of roles based on highly specialized, compartmentalized skills - obsolete and no longer practicable today, either in theory or in practice.

2.2 **The new paradigms: control and integration**

Although the fragmented, highly specialized Taylor model of the organization of labour is obsolescent, we still have to clarify what new paradigms will take its place.

The first point of reference is control: not just management and/or administrative control but also control of the production process. With the old model, a team might have consisted of a number of workers, each one doing a specific job, with a foreman acting as "controller". Today, with the arrival of production and office automation technologies on a massive scale, a new operator is emerging with different skills and job content, a person who monitors the automated processes performed by machines, not by men.

In the more narrowly industrial field, however, this may seem less evident in SMEs, since the actual method of production in most small firms tends, depending on the sector, not to be widely automated. Some firms may still be using methods characteristic of a craft industry or even resort to "black economy" methods, using temporary workers or homeworkers. Nevertheless, it is reasonable to believe that even in those firms that have not yet automated their production, cost factors associated with productivity will make it impossible to put off the technological rationalization of their production apparatus much longer.

Apart from the control factor, there is another dimension: job integration. SMEs are becoming more and more market-oriented and ready to take up even the most sophisticated challenges from the market. This creates a need to speed up communications and the flow of information from one area to another within the firm. For example if, in the course of trying to place a certain product, someone on the sales side realises that certain technical changes should be made to that product, he must have the technical expertise to convey to the production man exactly what change is needed. At the same time, the man working on planning and design must be able to work in synergy with sales (marketing in particular) and the production department.

All this is reminiscent of the integration work done by the entrepreneur within a small firm: in many cases, he does not just coordinate the various jobs within a firm, he performs part of them.

We should make it clear that we do not claim that the tendency is for everyone to have a "single role" as labour is now organized within SMEs; nevertheless, while the various types of employees retain their own areas of specific competence, there is a need for management reorganization and vocational retraining directed towards the integration rather than the separation of jobs.

2.3 The new training needs in individual jobs within the company

In the previous pages we have discussed the new skills within SMEs from a general viewpoint. Now we shall try to explore the changes in the organization of labour with explicit reference to the content of training regarded as essential in coping with those changes.

2.3.1 Product design

In SMEs, the importance of the product planning and design phase depends on the production sector in which the company operates. Here we refer to those sectors (clothing, micro-electronics, services, etc.) in which planning and design are of undisputed importance. Three types of skill appear to be in greatest demand:

- computer-based skills; now that computer techniques are readily available in practice, the most common are Computer Assisted Design/Computer Assisted Manufacturing systems, known as CAD/CAM;
- "commercial" skills, in the sense that a person working on design needs to be very much aware of product marketability and to be close to those who work on the marketing side;
- a more general, cultural skill. Going back to the point made in the previous section on the growing importance of intangible and sometimes non-quantifiable elements in society, the market and the working world, this implies a skill in managing human relations, communications and information, image projection and so on, applied to the interrelations among companies and people. Often the commercial success of a product (and its underlying idea) arises from the care its creator has devoted to aspects of its "image" quite unconnected with the technical qualities of that product.

2.3.2 Production

Production is a sphere in which, as has been pointed out, the main trends in SMEs' methods of working sometimes diverge.

Although the automation of production cannot be delayed much longer (and in some cases has already occurred) because of the need to

rationalize cost factors, a "submerged economy" form of production still seems to be fairly firmly entrenched (craft industry, use of outworkers). In the past, and still today, this system has been highly profitable for firms, especially in areas of local development and in areas of integrated, complex industrial systems.

Even so, assuming that the prevalent trend is towwads automation of the production process, here again it is possible to identify the general subject areas in which employees should be trained and retrained. The technology which in some way underlies all the various aspects of industrial automation is computer technology and its applications to the various instruments used in each sector.

Apart from this, special attention should be paid to two other technological factors which will presumably become of strategic importance in the medium- and long-term future: new technologies based on lasers, optical fibre, etc., and new materials. It is likely that the current "turbulence" on the economic, financial and labour markets will finally settle down once the new industries (those based on technologies and materials now in the experimental stage) have been defined.

2.3.3 Administration

The principal changes that have occurred in this sphere of work within SMEs have been in management, data handling and information on administrative activities.

Although at different levels of skill, innovation has taken the form of information technology instruments characteristic of "office work" rather than new procedures, in which there has in practice been no radical change.

What SMEs see as a need in this phase is perhaps for a more highly skilled administrator who, besides handling routine management matters, can grasp factors outside the traditional field of administration: finance, setting up new companies, joint ventures, internationalization.

Taking the analysis onto a more general level, thought should be given to the fact that these providers of administrative services can be created by retraining existing practitioners, and that these practitioners work in companies which may be presumed to employ a larger than average workforce, for example manufacturing companies.

2.3.4 Marketing

We have already mentioned that SMEs are responding in a far more sophisticated manner to new challenges from the market.

In taking up those challenges, firms need new professional skills on the sales and marketing side. The need for at least minimal integration of the roles performed by SME sales and marketing operators indicates that training at a more advanced level should essentially be given in:

- negotiating techniques
- consumer psychology
- foreign languages
- the company's production process
- an approach to product innovation.

In SMEs this qualified marketing person tends to be "sandwiched" between the entrepreneur above him, who usually takes a direct interest in product marketing, and the office employee below who

performs the routine tasks not done by the entrepreneur. In the course of their psychological development and economic growth, however, SMEs will have to move towards a more structured, rationalized commercial set-up, in view of the complexity of the market and the company's internal need for the integration of jobs.

2.3.5 Business management

Here again, there is a need for the restructuring and rationalization of business management along the lines of larger companies, creating a need for the training of business managers.

The question arises of how long the traditional small entrepreneur who grew up in the 1970s and 1980s in many areas of local economic development can survive, faced with the increasingly sophisticated challenges on the market.

If it is presumed that production work will tend more and more to be "labour-saving", more typically "service-sector" jobs such as business management can reasonably be expected also to demand higher-calibre skills, with the management experts working side by side with, or gradually superseding the individual entrepreneur. So many subjects could be included in management training schemes for SMEs: foreign languages, finance, credit, management methods, computer technology, familiarity with geographical differences, etc.

Finally, the middle manager seems to be the missing link in the small firm, having regard to all the management functions described.

A certain resistance to psychological change seems to be apparent among entrepreneurs, who are obviously reluctant to entrust purely management tasks to the new professionals.

2.3.6 Other professionals

An entirely different case is that of the professionals who over the the past decade have become a permanent and almost universal feature of company today: the marketing experts, the advisers on financial strategies, setting up information systems, simulation strategies, public relations, etc.

Obviously, the degree to which a company needs such professionals varies in direct relation to its size and job structure. In general, SMEs acquire such services from outside, with several firms often calling on the services of a single supplier.

The marketing expert, however, is the professional who will be the first to be "internationalized" by SMEs.

3. TRENDS IN THE STRATEGY FOR RESPONDING TO THE TRAINING NEEDS OF SMEs AND THE NEW ROLE OF DISTANCE TRAINING

In the previous section, we have tried to give, however briefly, a breakdown of the main spheres in which working skills are evolving, looking at the corresponding subjects in which training is needed.

We have not, however, explicitly discussed the timing and manner in which a strategy of meeting those needs could be put on an institutional footing.

3.1 Basic education and technical/specialist education in the Italian school education system

The first response that can be made to the new ways of working and behaving in the working world relates to the differing relationship today between basic and specialist education.

The argument is that the speed of technical and scientific progress creates a need for the continuous updating of vocational skills in almost every sector of the economy, and therefore calls for a strengthening of basic education, viewed as the "root stock" onto which further education and training can later be grafted throughout the adult life of the worker and individual.

The word "strengthen" as used here implies not only extending the amount of learning but also improving its quality in practice. On the first point, learning must be broadened because future "generations" of workers will need a better, and also longer, education if they are to cope with the integrated jobs of the future, especially in small and medium-sized enterprises, in which they will continuously need to master a growing number of variables.

Through that general education, they will be able to tackle new problems systematically as they arise, since they will have the "culture and broader vision" that are so vital today in coping with a phase of economic and industrial growth and reorganization. On the second point, the quality of learning, what is needed is to inject the seeds of a "workplace culture" or, more generally, a "culture of the working world" into current school education, the same seeds that are fermenting in the working world today and of the near future. Examples are the trends towards internationalization, group work, work experience during school education, the development of self-employment and cooperatives, information technology, etc. (1).

There is, in the final analysis, no alternative to tackling the problem of rethinking the content and form of basic education, at a time in which the pace and impact of technical and scientific change are so clear and so imperative.

3.2 The regions and vocational training

The regional vocational training system has become vitally important, not only in providing basic technical job training but also in meeting workers' growing need for retraining and continuing training brought about by the technological, information and cultural challenges in society today. There has been a constant need to upgrade the whole sector, but the regional vocational training system has had many problems to face since 1978, the year when the transfer of responsibilities for training from the State to the Regions was enacted by Outline Law 845.

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(1) This issue is the subject of a debate that has gone on for years on the radical reform of upper secondary education in Italy.

The following particulars of the regional system of vocational training has been obtained from ISFOL.

A) Type of trainee	Type of course
TRAINEES GAINING INITIAL QUALIFICATION	One-year qualification Two-year qualification (Three-year qualification) (2)
SECOND LEVEL	Qualification Linking course Specialization
ADULTS IN EMPLOYMENT	Training/retraining Refresher training Specialization
SPECIAL CATEGORIES HANDICAPPED AND DISABLED	

B) Sector	Percentage
1. Agriculture	4
2. Fisheries/fish farming	0
3. Mining industry	0
4. Non-metalliferous ores	1
5. Heavy engineering	25
6. Electrical/electronic	17
7. Chemicals	1

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(2) The Outline Law states that training may not continue after 4 cycles of 600 hours each. In practice, therefore, it makes a "three-year qualification" impossible. In practice, however, certain Regions do not observe this regulation.

B) Sector (continued)		Percentage
8.	Building	1
9.	Timber/furniture/furnishings	2
10.	Transport	0
11.	Printing/photography/paper	3
12.	Art crafts	3
13.	Food industry	1
14.	Textile industry	4
15.	Clothing industry/leather	4
16.	Hairdressing/beauty	2
17.	Tourism	1
18.	Entertainment/sport/the media	1
19.	Office work	14
20.	Hotels/catering	5
21.	Credit and insurance	0
22.	Promotion and advertising	1
23.	Retail distribution	0
24.	Cooperation	0
25.	Information technology	3
26.	Social services	2
27.	Miscellaneous	4
	TOTAL	100

3.3 **Form and structure of training schemes**

Another aspect to which further thought should be devoted is the best structure and form for future schemes in order to meet the new training needs.

As things now stand, the public debate in Italy is on two fundamental aspects of the problem: the period of education (whether or not the

school-leaving age should be raised); and the institution (public v. private sector). These two factors, it should be borne in mind, relate not only to the school as such but also to vocational training. If the school-leaving age is raised, what is termed "level 1" vocational training would be directly affected, even though much of this is now obsolescent, serving as a place for remedial school education for pupils older than the minimum school-leaving age. If the decision were in fact taken to raise that age, quite apart from the problem of meeting the obligation to provide additional school education, the training that follows on education would have to be recalibrated. This would probably be done by combining basic training with level 2 training, also known as "post-diploma training". This would not be entirely unreasonable, in view of the growing complexity of the problems being faced by the working world.

Regarding the debate on the role of the public and private sector in the field of vocational training, there seems to be no advantage in giving up the mixed system, as it now is, under which training is provided by the regional authorities, private agencies and the national authority. It would be desirable, however, for the system as a whole to be streamlined, with the public sector gradually acting less as a provider and more as a coordinator of professional and manual training, especially in view of the local scale of training.

3.4 Potential and actual scope for distance education and training

There is undoubtedly, now and in the past, a potential and actual demand for distance education and training in Italy, associated with the growing need for training that has become apparent over the past 20-30 years.

At the same time, there can be said to be a supply of training from State and private bodies. In practice, however, both demand and supply have naturally tended to be from and directed towards two categories of users:

trainers and teachers;
civil servants.

The State, regional authorities, public-sector agencies and private firms, training agencies and research institutes, Italian Radio/Television and the publishing world have tackled this problem. Sometimes their solution has been to offer true distance education and training, by correspondence or using multi-media aids. On other occasions, their solutions have been more open-ended and flexible, although they could not really be placed under the heading of distance education and training (3).

Nevertheless, it must be pointed out that no surveys of national significance exist that show the explicit demand for distance training in small- and medium-sized Italian enterprises. No bodies in Italy have promoted any research on the subject, not even in a given industry or geographical area (except for the province of Turin, which will be discussed below). In the absence of references that would help us to arrive at reasonably precise figures on the emerging demand for distance training, it is all the harder to estimate the supply.

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(3) For more details on this issue, see L. OSBAT, La formazione a distanza in Italia [Distance training in Italy], F. Angeli, 1986, pp. 24-48.

It should also be borne in mind that Italy is lagging somewhat behind other countries inside and outside Europe in its use of this learning technology, and this lack of interest has detracted from awareness of the role that distance training might play in promoting the more effective organization of labour and production in SMEs.

The public has tended to associate distance education and training with correspondence colleges, whose courses are seen as an inadequate solution to the real needs in industry and the business world.

With the entrepreneurialism of SMEs in Italy, especially over the past ten to fifteen years, there has been a realization that the management of human resources is an independent factor that contributes to productivity in the dynamic context of a post-industrial society (4). On the question of training, it has also been realized that there is a need for new training methods, more flexible and open-ended than the traditional residential courses, which are usually beyond the means of smaller firms for practical, logistic and functional reasons.

The task of drawing up an inventory of the distance training that exists in Italy for the benefit of SMEs and gauging its precise extent and potential is made no easier by the proliferation and diversity of training systems on the scene:

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(4) The intimate connection between the manufacturing and service industries in the post-industrial society is exemplifed in Italy by the growing use of the acronym "indario" (industria + terziario, a rendering of which might be "induserve").

the public- and private-sector company system, including Chamber of Commerce training agencies, which run their own training;

the private system, which organizes and sells training to other bodies and companies (including training by software houses);

the regional system, which is developing around the demand for the training of specific socio-economic categories, aimed at both groups and individuals, in specific contexts.

As is apparent, there is an enormous diversity from one category to another (and even within the same category) in important factors such as institutional setting, proximity to the decision-making phase, purpose and even the level of methodological awareness of the training on offer.

Nevertheless, this provision of training is the best starting point for the creation and expansion of a demand for new training methods and procedures for the organization of training which are often, but not always, correlated.

On the demand side, there is a growing need for specific solutions to individual rather than global situations, providing training along the lines of "open learning" or "centre learning" rather than distance training in the narrow and/or rigidly structured sense;

On the supply side, both public- and private-sector, there are few schemes connected with SMEs and craft firms to be analyzed in Italy, although there have been decisive advances over the past three years. These advances have so far been in training policies and strategies under the headings of planning - and it is a hopeful sign that there is a wealth of planning - and experimentation, which we shall discuss in the next section.

PART TWO:

THE SURVEY

1. SURVEY METHODS

1.1. The survey objectives

Distance training ventures in Italy have been gaining ground in a few areas of society (for teachers, civil servants, etc.). Although these ventures are relatively few in number (correspondence colleges are estimated to serve some 100,000 students in Italy), users, specialist institutes and agencies are now, a little later than in other countries, viewing them with increasing interest.

The demand for distance training is almost totally unexplored in Italy, whereas the information available on supply is reasonably good. As we shall see below, however, little information is available on the supply of distance training for those working in SMEs and craft firms.

The survey objectives, formulated in the light of the above, are:

- to find out whether there is an (explicit and implicit) demand for distance training from SMEs and craft firms and to determine its nature;
- to analyse the nature and extent of the public- and private-sector supply of distance training for employees of SMEs and craft firms.

Part 1 of this study places these objectives in their context and looks at:

- the number of SMEs and craft firms in Italy: the role of SMEs, their structure by economic sector, their short- and medium-term objectives and geographical differences;
- vocational training as it relates to SMEs and craft firms: the resurgence of the human factor, new training needs in the various areas of company operation and the basis for a strategy to meet training needs.

1.2. Survey methods

The underlying aim of the study was to gather as much information as possible on an issue which is still at an early stage in Italy; the data gathered from oral and written sources has not been just passively accumulated but built on so that motives, problems and prospects can be explored.

Since the literature on Italian experiments in distance training could not provide adequate information as regards SMEs and craft firms, our only choice was to go straight to the source and interview a set of people who, with the social or political experience they bring to bear, might help to set up a credible "observatory" for the investigation of existing distance training in this sector.

A list of 32 "expert witnesses" from a variety of backgrounds was therefore drawn up:

- public authorities,
- trade associations,
- training agencies producing and supplying distance training,
- university lecturers,
- specialists.

Using a semi-structured matrix centred on the survey objectives (see section 1.1.), strategically placed "experts" who were expected to provide the most and the best information were interviewed in depth.

Although these experts were aware of the problems, especially as they had reached an advanced stage of thinking about planning, they were not always in a position to tackle the actual problem in practical terms, nor to weigh up and identify the crux of the problem of distance training for SMEs, due to the lack of practical experience in this area. Our first task was therefore to understand the role of training in SMEs so that we could deduce the true potential for the

use of distance training methods in the refresher training and retraining of those working in the sector (1).

1.3. Identification of case histories for analysis

As mentioned briefly above, experiments in distance training for SMEs are few and far between in Italy, as will be discussed in detail below. Four significant experiments, discussed at greater length elsewhere (2), were chosen from among the schemes existing today.

The working criteria used to confirm the significance of these experiments were that the organizers should have some experience in the field and that they should be administered in a systematic manner.

The cases in question were schemes run by the following agencies:

- ISVOA (Istituto per lo sviluppo organizzativo dell'artigianato - Institute for the organizational development of craft firms), Piazza Venezia 11, 00187 Rome;
- DIDANOVA, specializing in "business training for accounting", Via Ferri 6, Cinisello Balsamo, Milan;
- DIDA/EL, a company specializing in computer-aided teaching, Via Lamarmora 3/A, Milan;
- METROTEC, a distance training centre set up by the Labour and Vocational Training Inspectorate of the City of Turin (Via Ventimiglia 201, Turin).

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(1) The list of "expert witnesses" interviewed is included in the annexes.

(2) See Book 2, in which the case studies are analysed on the basis of the CEDEFOP matrix.

2. THE DEMAND FOR DISTANCE TRAINING IN ITALY FROM SMEs AND CRAFT FIRMS

An exploratory study conducted on a significant group of people with expert knowledge of distance training supply and demand in SMEs and craft firms highlighted a number of factors which, although not strictly related to the problem, show that distance training cannot be discussed without reference to vocational training in general.

Distance training must be viewed as a part, even if it is a fairly small part, of a demand for vocational training from a broad spectrum of society, one that is difficult to pinpoint, whether it relates to the need for induction training to help people find a job, training to improve people's vocational skills or retraining to provide new skills.

2.1. The need for training in SMEs and craft firms and the demand

Given the diversity of SMEs and craft firms in terms of the industries in which they operate, their output and the size of their workforce, their technology and organizational model, there is also a great variety of attitudes towards training as a variable in organizational change within companies - irrespective of the nature of the demand for training.

The existence of an organizational model where a single person - the "owner-entrepreneur" - is traditionally responsible for a number of company functions must be borne in mind, for it is very widespread, particularly in small firms.

Natural changes in structure brought about by factors within and outside the firm may be both the cause and the effect of changes in organization and production, entailing a change in job content, the redefinition of tasks - and of job profiles - and their

incorporation into a company system able to respond more appropriately to market forces. This raises the problem of finding new resources on the labour market and/or training so that a firm can acquire its own new skills in administration, marketing or design, depending on the specific needs arising in individual production situations. This accounts for the first category of training needed by many firms concentrated in a few geographical areas where there are large numbers of "small businesses", chiefly in the Centre and North of Italy.

Training linked to technological innovation and the expanding applications of computers - factors which entail changes in organization and require new skills that need to be updated, often on a continuous basis - accounts for the second category of training need.

On a purely hypothetical level this would seem to point to a demand that groups a variety of different needs and is explicitly expressed on the training market.

This is not what happens in practice; perceptions of problems connected with critical areas of company operation do not seem to be translated into training needs, particularly in this type of industrial firm which is psychologically less likely than are large firms to see training as a way of putting its internal administration on a more balanced footing.

Demand is therefore difficult to quantify without specific, highly analytical research at grassroots level. Training needs - disregarding specific individual needs - are identified intuitively

through direct contact with individual firms and with the representatives of trade associations (3).

There are very many potential users, but they cannot easily be grouped under a single heading based on sociological variables such as educational standards, the role and definition of tasks or their motivation for learning in the form of vocational training.

We feel, however, that given the widespread trend towards computerization the common denominator in demand is the need for "computer literacy". This sweeping term covers a whole range of technical skills and applications (from office automation to factory automation, not at present a particular problem for SMEs and craft firms).

The sophistication of technology and its greater accessibility in terms of ease of use, lower cost and wider applications are variables that influence the evolution in the demand for vocational training, including the demand from SMEs and craft firms. In the case of SMEs, training is often "tolerated", rather than "actively sought out" in the light of an analysis of their own needs and a real awareness of specific product and service methods.

2.2. The potential role of distance training

Bearing the above in mind, distance training - in both the broad and the narrow sense - has a role to play in technical training aimed at individual users, whether employed or unemployed, most of whom are educating or training themselves.

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(3) The interesting survey conducted by METROTEC in Turin to identify the new training needs of small firms and the potential and actual demand for new technologies and updating and training methods will be discussed in more detail below.

Teaching materials and methods of communication (chiefly written materials sent by post) are changing, albeit slowly, as a spin-off from technological advances in communication and information methods and their dissemination throughout society.

The changing concepts of the model of distance training among many of the training "providers" are linked with the development of broadcasting and electronic media and their substantial potential for application to training; these media are themselves the subject of research and experimentation (as testified by the growing interest in computer-aided instruction), while the demand for training is expanding due to the introduction of new technology into every industry providing goods and services.

Technology, then, is a training "tool" in itself. There is a shift away from the conventional idea of distance training as a poor relation and towards an image of such training as a more rational method which, over the course of time, may be of help in solving problems connected with:

- methods of administering training schemes in various operating situations;
- efficiency and efficacy by comparison with the more common and traditional residential methods of training;
- training costs.

2.3. Significant research in the Province of Turin

As mentioned above, a market survey (4) conducted by the "Centro Analisi e Previsioni" and promoted by METROTEC of the City of Turin on the demand for training from SMEs and the potential applications

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(4) Le esperienze di formazione nelle piccole imprese in provincia di Torino. La domanda possibile" [Experiments in training in small firms in the Province of Turin. Potential demand], research report, June 1987.

of open learning is worth discussing in detail. The survey covered 101 SMEs and entailed interviews with some 20 expert witnesses. The SMEs were located in the geographical area of the Province of Turin, divided into four sub-areas:

Turin city:	35.5%
immediate environs:	23.7%
Canavese:	20.9%
Pinerolese:	19.8%

The breakdown of the SMEs by size was as follows:

fewer than 9 employees	9.2%
10 to 29 employees	31.6%
30 to 49 employees	33.6%
50 to 99 employees	17.6%
100 to 249 employees	12.8%
more than 250 employees	0.9%

63.3% of the SMEs were in mechanical engineering, 23.7% in chemicals and 12.8% in heavy engineering.

The findings of this study are worth discussing in detail, since it seems to be the only specific study (on the demand for training and distance learning) currently available in Italy which meets the aims of this survey. Among other things, it predicts the innovative trends discussed in Part 1 of the following Report.

2.3.1. Firms' willingness to acquire training modules

Firms do not regard training as having a strategic role. When they are obliged to provide training for their employees, they complain about its cost and the effect it has on output and productivity. They are puzzled as to the headings under which the costs should come. The situations in which they acquire training are fairly exceptional and a departure from the norm. It is only because of those situations that training is seen as an investment in personnel as well as in realizing the potential of the firm's production factors.

Cost, time, the pace of production and market "pitfalls and snares" are real factors, but when they are cited as the sole reason for not being interested in training the underlying factor may be a complete lack of awareness of the value of training.

In other words, the level of awareness in this group of firms is still far lower than in medium-sized and large firms and in firms in other countries. If we use this parameter to measure the potential of new and different types of training, the answer is likely to be disappointingly negative. The problem can be approached, however, from a more dynamic point of view: SMEs can become more aware of the investment value of training.

The inevitable renewal of plant and turnover of manpower (the average age of the workforce has risen even higher over the past decade because of restrictions on dismissing employees) and the widespread introduction of computers are causing a shift away from established, static methods of managing personnel and production resources.

These changes are creating a need for training, however unsystematic that need may be and however vaguely it may be perceived. In the case histories studied, this tendency is evidenced by the way firms constantly refer to the manufacturerers of equipment and technology and the dealers for training, sometimes even for consultancy. It will take marketing and information campaigns to arouse awareness before innovatary training modules can be disseminated that will help to solve certain company problems (although the problems requiring personalized or more complex action will be left unsolved).

It will take a long time for such awareness to grow, because of the nature of those involved (enterprises) and the type of product (not common or well known in other, more training-conscious circles). Marketing means increasing the demand for a product for which there is currently little or none.

2.3.2. Two types of firm: innovation by virtue of necessity and innovation by intent

Firms may be divided into two sub-groups in this respect: the "**closed-minded**", and the "**open-minded**".

A. **Closed-minded firms** see no future in training schemes. They account for approximately one third (15 cases) of the firms interviewed up to now.

The majority (some 70%) are going through a very difficult market period, with low added value products in areas of high competition. Up to now they have not embarked on training since, they say, all their resources have to go into surviving the recession.

Training is seen here as a disruption, or as a "luxury" to which they can treat themselves only in times of prosperity.

Viewed from outside, there is what can be regarded as a strategic need for training in managerial and entrepreneurial skills. The psychological resistance is, however, deep-rooted.

There are two possible paths

a. the recession can be weathered by following the example of other firms: increasing productivity and improving product quality, diversifying product ranges and production techniques and investing in a marketing network. The introduction of computers into production and office work is implicit in these choices. The end result would be a demand for training of the types described above;

b. the firm fails to weather the storm, in some cases because of its resistance to change and innovation. The end result would be a continuing lack of demand for training.

Other firms (some 30% of those defined as "closed-minded") regard training schemes as useless or even counter-productive, in the light of what they feel has been disappointing prior experience.

This is a non-inductive attitude, somtimes brought about by disproportionate expectations of training. Two scenarios are typical:

a. a firm is disappointed with its experience of training because training has not solved the problems of organization, markets, production quality and so on which led the firm to introduce new technology and embark on training.

   Here there is also a need for training in managerial and entrepreneurial skills so that the problems can be correctly formulated and tailor-made solutions appropriate to the critical situations found. Such action could be an opening for targeted training, which should no longer be seen a cure for all ills.

b. a firm has gone to a poor quality source for its training.

   This is a fairly frequent situation, particularly as regards the training in the use of software offered by some dealers, who have to offer courses but pay scant attention to their quality (since they are not cost-effective).

   The problem lies in improving the quality of the service offered in a growth market.

   Such a firm can be wooed back by the offer of the higher quality training they need to recoup the time they have wasted and to develop refresher training methods for their staff, the foundations for which have been laid but not built on.

There are also firms that draw solely on their own resources to provide training, as they doubt the ability of outside public- or private-sector training providers to make a useful contribution towards solving their problems.

In this case distance training modules - which to some extent reproduce self-instruction methods - may well be successful, particularly in the area of training in managerial and administrative skills.

B. **"Open-minded" firms** are a potential but uncertain market. They include those firms that say they are interested in developing further training schemes and are aware of the importance of training their manpower in skills linked with new technology. These firms are more open to innovation, including firms where training is accounted for as an investment rather than as a cost.

Some mention should be made of the typical uses of training.

a. Firms that have "discovered" training tend to see the hardware manufacturer or dealer as a point of reference. They feel more secure in that they can expect after-sales support and help with installing new equipment or new computers. They often think that any other type of training would smack too much of the schoolroom and its inflexibility.

The demand for training they express is largely shaped by the future needs of new employees or the retraining of existing staff and is therefore very fragmented and episodic.

They raise the questions of cost and time. The training services offered by people other than hardware suppliers are felt to be too expensive for company budgets. Letting workers have time off disrupts work, and the disruptions may be difficult to cope with.

They are willing to accept students from training centres for work experience placements, using this as an opportunity to pre-select young people for subsequent recruitment under employment/training contracts.

b. Firms with a dynamic policy of technological and organizational innovation are also the most willing to spend money on training.

They are generally aware of the range of possible suppliers of training modules and consult a variety of people offering training services to meet their various requirements.

There is a growing demand in these firms for ongoing training for executives and managers, who have a critical part to play in achieving company development goals.

Training modules that can be adapted to the individual - in other words that are not bound by inflexible timetables and deadlines - may be of some interest, although they raise a problem not arising in the other cases examined in this report, one that seems to be more common in large firms: the use of training as a perk to relieve staff tension. In dynamic, innovative firms, one of the rewards for highly skilled managerial staff is that they are allowed to attend outside events such as conferences, seminars and training outside the work-place, something that serves a status symbol. It would be counter-productive in such cases for firms to stop their managers attending outside training courses, even though this would reduce the cost and cut down on the absences of the staff in question.

c. Of the firms that are actively interested in further training ventures, some describe the needs specific to their sector or segment.

The complaints are the absence of training for the chemicals and plastics industries and the lack of introductory basic training for particular highly specialized processes.

This is a requirement which distance training does not seem able to satisfy, unless there is a large-scale homogeneous demand justifying the preparation of suitable training packages.

d. There is a similar need for specific job profiles for which no appropriate training curricula are available for use by small firms. They include the jobs of selling (market-oriented jobs that entail a technical education geared to the specific nature of the company), process software designers (promoting integration among the sections into which computerized procedures have been introduced) and "turnkey" contract estimators.

Some firms report the problem of recruiting young people with an average to high standard of education for coordinating the innovative processes in design and production. Such jobs could be filled by recriting people from other companies; they would probably be capable of the coordination work, but they might have problems fitting into the technological environment, in which young people are far more at home.

Such practitioners are familiar wih several industries, although all the firms point out that the production processes and organizational systems in which they have to work are far from standardized.

e. The role of hardware manufacturers is seen as crucial in all the cases analysed. They are the people with the most technical expertise in on-site training in technological development and the first people to be contacted by any firm introducing innovation.

A distinction should be made between manufacturers of mechanical or electronic components and software houses. In both cases, even though there is considerable diversity in the cost and quality of the training on offer, there seems to be more scope for integrating the technical content and teaching methods.

Manufacturers aim to protect their image. Sometimes it may be very expensive to provide technical support with a plant or machine or training in the use of an application program, but manufacturers offer it nonetheless so as not to undermine their image.

The potential for the wider provision of training in specific technologies (by manufacturers of machine tools, plant and hardware) using different methods such as distance training should be measured.

2.4. The demand from SMEs for distance training: limits and potential

The discussion up to this point highlights the need for a new approach by SMEs to the entire development model, which should be rapidly updated by means of recourse to vital training schemes along the lines described above.

It is essential to rethink the training methods that could be used by the training providers serving the smaller firm. There is, according to the experts, a need to support entrepreneurialism through a series of training schemes channelling the combined efforts of public-sector agencies, trade associations and political and social forces.

An analysis of the literature on the subject, the research in the province of Turin cited above and the interviews of experts (public and private agencies, company experts, university experts, the producers and suppliers of distance learning, etc.) shows that there is a clear and emerging demand for distance learning from SMEs and craft firms, but that this demand is more implicit than explicit. It is a result of emerging training needs on the part of executives, managerial staff and shopfloor workers alike, although those needs may differ depending on the type of firm. There is scope for the introduction, now and in the future, of multimedia distance training schemes.

2.4.1. The company manager and executive staff

Since these managerial roles are to be found in every company, the assumption might be that there should be specific schemes for these categories. It would be essential here to promote any training and refresher activities that is tailor-made for them.

The main type of training they say they want is in-depth training in management skills, together with specific refresher training linked with the type of products produced by the firm in which they work.

This finding must, however, be viewed in the context of all the factors involved in keeping abreast of one's job. According to the interviewees, the vital factors are in order: on-the-job experience; reading the literature and the trade press; keeping a closer check on what more sophisticated firms are doing; and, but a long way behind, training courses.

This highlights the need to devise a judicious mix of personalized training and non-residential training, since the latter is felt to be out of step with actual requirements and incompatible with the needs of a small firm, which cannot arrange for replacement staff. The goal that distance training must attain as regards this category, then, is to improve the professional skills of executives and managers without disrupting production, and to update the trainees' knowledge of subjects as they apply to specific production requirements.

The stress placed by managers and executives on the importance of professionalism, even though no channels for the transmission of and training in such professionalism have as yet been found except for actual job experience, reveals the urgent need for those working in and for SMEs to concentrate on this target.

According to the findings of a recent survey on small business managers (5), 47% of Italian SME managers have never attended any training course. A breakdown of the providers of such courses shows that IDI (Istituto Dirigenti Italiani - Italian management institute) accounts for 12%, other Italian training agencies for 36% and some foreign training centres for 19%.

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(5) IDI, Dirigere la Piccola Impresa negli anni '80 (Managing small business in the 1980s), p. 71.

This survey also reveals a gratifying awareness of the problem of updating one's professional knowledge, but the fact that there are so few managerial staff in a small firm is a great obstacle to their involvement in such activities.

It may be inferred that if sound distance training were available there would be a target group that would be very interested in taking advantage of it. The subjects of training in principal demand from this type of professional, who could be defined as a combination of employee and manager, relate mainly to the need for a better general managerial culture and, to a lesser extent, specialist skills.

Reflecting the boom in training in Italy over the last 10-15 years, as testified by the many agencies and private institutes that have been set up alongside and in competition with the public-sector training offered by the State, the following have been gaining ground as far as SMEs and craft firms are concerned:

a. Firms report that they have attended courses in the following fields (although they do not as yet mention distance training):

   company organization
   personnel management
   company planning
   finance and control
   import-export
   marketing and sales techniques
   foreign languages

b. It is obvious that these areas have a common bearing on the small firm in the broad sense and the relationship between the firm and the development of the human factor - a crucial resource in achieving business goals in a small firm.

c. The experts consider that existing training ventures are good on the whole and that a general desire is emerging to take part in genuine training (not just manual training) courses which reconcile theory and practice.

d. There is growing awareness of the usefulness of new training methods such as distance training, self-teaching and more advanced technical literature for the purpose of instruction.

e. The focus is on executives and managers, who are seen as crucial factors in developing company organization.

f. The problem created by training for firms with fewer than 50 employees, who are unable to find replacements, is reported, confirming the need for ad hoc training methods (for instance personalized distance training).

2.4.2. Manual workers in SMEs

As has been discussed above, small firms on the whole still use the traditional production processes. New technology has been introduced in only a few production areas, and even here sophisticated high-tech machinery is not generally needed. Production depends more on the quantity of human labour than on machines. There is a widely felt need for employees with middle-level skills. The training that is given takes place on the job and is hard to delegate to outside agencies, particularly in the case of firms with less than 50 employees.

There is no up-to-date information providing a fair picture of training for manual workers in SMEs, although the following situation is evident from a number of surveys conducted in the sector at regional

level: some 75% of firms in general train their manual workers (4), this figure being slightly lower in the case of small firms, and almost all training is in-house. The idea that manual training should be "homemade", and that job skills should be acquired through experience and practice, is deeply rooted in small firms.

The data obtained from a survey carried out by AIF (Associazione Italiana Formatori - Italian Trainers' Association) (5) on training in Italian firms confirms these trends and the figures given above. The following points are taken from the survey:

a. provision of training for manual workers: larger firms provide more training than do smaller firms;

b. commissioning of training: production line foremen are the main people who commission training for manual workers;

c. design of training: consultancy firms and outside experts are seldom involved in the planning of training for manual workers;

d. training content: attention is directed mainly towards clearly defined jobs in small firms;

e. training itself:
   - job retraining courses are to be found in larger firms,
   - technical and vocational refresher courses predominate at shopfloor level,
   - courses for newly hired workers are not found in small firms,
   - pre-recruitment courses are arranged only by a few large firms.

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(4) C. Filippucci, L. Lugli, I servizi per le Industrie in un sistema di piccole e medie imprese (Services for industry in a small and medium-sized enterprise system", F. Angeli, Ires/CGIL Emilia-Romagna, 1984, p. 117.

(5) AIF, Le iniziative di formazione in azienda in Italia (In-company training in Italy), Cedefop, 1983.

The potential for the use of new training technologies for manual workers in SMEs, on the basis of the information gathered up to now, seems somewhat remote and it is therefore difficult to pinpoint a clear, even if potential, demand for distance training for this group.

2.4.3. Conclusions

It was stated at the outset that there was a significant, even though newly emerging, "demand" for distance training among SMEs and craft firms and that this demand was still formulated in implicit rather than explicit terms. The literature analysed and the interviews bear this out and show that this demand for distance training:

- is almost exclusively from company managers and managerial/ executive employees, and distance training may be an appropriate and available response to the new needs emerging in SMEs;

  is for training in the nature of "open learning": modular access to professional expertise, of reliable quality, flexible training paths, personalized training and the use of multimedia systems.

3. THE SUPPLY OF DISTANCE TRAINING IN ITALY FOR SMEs AND CRAFT FIRMS

It has already been stated that the distance training available for SMEs and craft firms is only just emerging and, as things now stand, is centred on training strategies and policies still in the planning and experimental stage. It is likely, therefore, that as this stage advances, the plans will be changed or translated into practice.

In setting out information on the supply of distance training, perhaps a little too much emphasis will be placed on training situations that are still in the planning or experimental stage.

3.1. Distance training providers

We shall for the time being discuss only a few of the interviews which, although partial and limited, seem to be representative of the more general context.

Some of the providers interviewed were from private companies, others from public-sector agencies. The companies provide vocational training on an institutional basis, in some cases in connection with their production and sale of application software, which means that distance training is by no means their mainstream activity.

Some of the public-sector providers are bodies with "corporate names", institutionally committed to training and computer literacy associated with the introduction of computers; others are more informal working groups within a regional authority vocational training department. What is significant is the difference in identity rather than the diversity of the public-sector agencies to which they belong (a large local authority in the first case, a regional authority in the second).

In terms of size, the public-sector agencies are groups of two to seven people; in the private sector they are larger, although project

development is the responsibility of a small group. In both cases outside contributions are used for individual projects and for running the courses themselves.

Since the groups are so small, it has not yet been possible to provide a broad spectrum of training. They need more extensive research, for example, to identify the demand for distance training more clearly.

As regards awareness of the competition, the providers interviewed seemed well informed about other training available, if not their competitors' strategies. The trend seems to be to cooperate in the production of materials to avoid over-extending themselves and the risk of overlapping. This is particularly true of the public sector.

The internal organization of these agencies is also in the initial stage. On the whole it is too early to have reached the stage of independent marketing unless the agency already has a marketing department, in which case distance training can be included in that department's brief.

All providers are making attempts to avoid a monolithic conception of the "product", opting for the modular concept instead. Modules must also be small to the extent possible and, in future, compatible with modules produced elsewhere. Flexibility is an aim because it reduces risks and exposure and, at the same time, makes the product portable and responsive to the needs of each individual consumer.

A final comment is on the differing status of public- and private-sector providers. The institutional constraints on the former make them less flexible in their strategic and investment decisions and in their market. This difference is not very important at this - mainly planning - stage, but it is likely to become significant in the future.

With regard to both types of producer, know-how in this sector should not be confined to the design of training but should extend to operation. Not to enter the market, or to delay entry, would detract from the provider's expertise and credibility. On the other hand, it would be unthinkable to enter the market unless there were concrete prospects of the training being taken up, for the "engineering" costs of distance training products are probably higher than those of traditional products. This sets up a vicious circle, which inhibits development in the sector.

3.2. Data on distance training projects

The topics covered by distance training are as yet limited, particularly those of interest to SMEs and craft firms. They are primarily courses in computer literacy, covering both software and hardware, for users from both the private and the public sector. Next come language courses, long viewed as the ideal ground for the application of new teaching technologies and therefore as suitable for ventures of this type.

In less traditional areas, training is also being offered on specific topics connected with robotics, new developments in CAD/CAM and microprocessors, as well as on business management. Both types of training are aimed at small and medium-sized firms.

Lastly, software houses are working to provide training in the packages offered directly to the customer (chiefly on tax matters). Here it seems that distance training has much to contribute, being an integral part of the product and support service on offer.

The teaching materials used in distance training are chiefly written materials and audiovisuals at present. There is a growing trend, however, to use PCs and videodisks to implement CAI methods, especially for simulation, although the tendency is still in the experimental stage and unlikely to become the general rule unless

the demand increases. Mention should be made of the multi-media approach, combining the use of FM radio for data and voice transmission with the computer, networking with data processing and transmission centres that serve as "laboratories" whose output can be monitored on-line via the telephone.

Investment is obviously needed in setting up ventures of this type, which necessarily involve public agencies or authorities in training projects aimed at a wide range of consumers, based on broader educational policy strategies. The most significant aspect of distance training is that many of the aids and application methods that form a normal part of conventional training are by definition excluded.

This calls for more detailed thought on the administration and evaluation of distance training as well. Every course has to be designed so that it can be self-administered and self-assessed, identifying in advance those points in the learning process where the conventional trainer would step in and explain, reinforce and judge. As a result more information has to be incorporated in a distance training course than in a normal course, altough it is obviously impossible to anticipate every possible problem.

Contact between the consumer and the provider is thus planned, the provider making tutors available who are expert in the course subject and in teaching and application methods. The tutor profile is likely to generate trainer training requirements, as well as the problems of combining the necessary general and specialist skills.

At present tutors are involved not only in the application stage but also in assessments along the way and the final evaluation of the success of the learning process. Distance training may at this point become training on the employer's premises, or alternatively the trainees may be given access to the providers' laboratories and materials on its own premises.

This juncture is obviously very valuable for the provider, for it is an opportunity to verify the appropriateness and efficiency of the training offered.

3.3. Existing distance training ventures for SMEs and craft firms

We have stated that there are few distance training ventures for SMEs in Italy, most activity at present being in the form of intensive planning, but a few significant ventures do exist on an experimental basis.

3.3.1. Craft firms and their problems: a course in improving entrepreneurial skills set up by ISVOA (Istituto per lo Sviluppo Organizzativo dell'Artigianato). The six-month course, designed to improve the entrepreneurial skills of small businessmen, has already been taken by 500 people from the Veneto Region. No diploma is issued. The course is modular and offers 100 fact sheets on "understanding accounts" and a guide for the small craft firm (1). The course covers the following topics:

- company accounting and how it is set up;
- how to set up an accounting plan appropriate to one's own firm;
- the company balance sheet;
- how the final balance sheet is drawn up;
- the information that can be derived from balance sheet index analysis;
- the information that can be derived from balance sheet cash flow analysis;
- the information the can be derived from an analysis of the ratios between costs, volume and results;
- how to budget, and the purpose of budgeting.

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(1) This experiment will be discussed in Volume 2, "Case Analysis".

3.3.2. Business and financial company management: this two-month course, also promoted by ISVOA, is being developed and set up. At present, 50 people have enrolled in four provinces of the Veneto. No diploma is issued.

Both ISVOA courses mainly use written materials and offer a hot line and tutorial sessions. The trainees are young entrepreneurs and their staff, their average standard of education being higher than that of older generations of small entrepreneurs.

3.3.3. The venture launched by ECIPA (Ente Confederale Istruzione Professionale Artigianato - Confederal Agency for Vocational Training for Small Businessmen) which is part of the CNA (Confederazione Nazionale dell'Artigianato - National Confederation of Small Businessmen) is in the final stage of planning and design. This distance training project for craft firms has the following objectives:

a. training aims:
- the acquisition, dissemination and standardization of an entrepreneurial culture. The emerging is to develop greater entrepreneurial skills among small businessmen so as to improve company management, promotion and market orientation;
- the acquisition of specialist knowledge and skills in new management, process and product techniques;
- acquisition of knowledge and skills in respect of technological innovation in the sectors concerned.

b. operational aims:
- to develop a training method based on the techniques of distance training, clearly identifying the most appropriate ways of doing this;
- preparing and testing multi-media training packages.

The course will cover four Regions: Lombardy, the Marches, Basilicata and Calabria with 100 trainees aged over 25 (20 women and 80 men). There will be 9 or 10 multi-media training packages, each lasting 100 hours. The distance training project will be set in motion in 1988 and will end in late 1990.

3.3.4. A distance training scheme organized by ASSEFOR (Associazione di Promozione e Formazione per la PMI - Promotion and training association for SMEs) in Tuscany is aimed at sales representatives.

3.3.5. The Centro Europeo dell'Artigianato (European Centre for Craft Firms) based in Venice is conducting, together with the German Government, a pilot distance training scheme to teach craftsmen new skills for the preservation of the cultural and architectural heritage.

3.3.6. An experimental venture, currently the most significant in the Italian SME sector, is being promoted by the Ministry of Labour. The purpose is to develop a series of prototype distance training courses and validate their quality through ad hoc testing. The target groups for these courses, already at an advanced stage of preparation, are:

- administrators in small and medium-sized firms;
- trainers and officials in the regional training system.

The notes that follow, however are confined to the prototype courses for SME administrative staff and the testing methods.

a. Consumers and field of experiment

The users are to be administrators in SMEs. A trial group of 50 people is planned for each prototype; the geographical catchment area for each course has been chosen to facilitate:

- informal contacts between trainees;
- group meetings organized by tutors;
- other types of practical support.

The final choice of geographical area and the firms from which trainees are selected is made by agreement between Confindustria (the employers' federation) and provincial industrial associations.

b. Course content

Two types of course are planned:

- courses on foreign languages: this type of course can be conducted on its own or be incorporated into courses centred on company management;
- courses on the introduction of new technical skills into company management using computer aids, possibly covering:
  . general and industrial accounting;
  . management auditing;
  . finance (cashflow, balance sheet analysis, optimizing investment, etc.);
  . customer and supplier management;
  . personnel management;
  . tax matters;
  . EEC regulations (certification of accounts, etc.);
  . knowledge and use of administrative and management software.

As regards content, the authority commissioning the project, the Ministry of Labour, has laid down certain "minimum goals" for each trial, although the agency running the experiment is given some leeway:

- business management:
. computer literacy techniques;
. basic accounting techniques;

. awareness of the business information that can be used in strategic planning;
. the drafting of periodic information reports to the management (employer).

- English language learning:
. ability to deal with correspondence;
. building up vocabulary;
. ability to conduct a short conversation on technical subjects.

c. Organization of the training

In this experiment in distance learning aimed at SME administrators, the experimental project is shared out among the companies ACCAMEDIA, CNITE, DIOIKEMA, DIDANOVA, METROTEC (Commune of Turin) and PRAGMA, with coordination and technical back-up from CENSIS on design criteria and external assessment.

The following is a breakdown of the scheme by type of course, testing agency and the geographical catchment area:

Course		Geographical area of experiment
- foreign language learning	1. ACCADEMIA	Latium
	2. DIDAEL	Lombardy
- introduction of new company management skills	3. CNITE	Latium/Tuscany
	4. DIDANOVA	Campania
	5. DIOIKEMA	Emilia
	6. METROTEC	Piedmont
	7. PRAGMA	Veneto

d. Evaluation of results

The programme provides for internal evaluation, to be set up by each agency, and an external evaluation by CENSIS.

The aims of the external evaluation may be summarized as follows:

- general: to monitor the reproducibility and transferability of the prototype teaching package in non-test situations, and how well it meets the potential demand (an objective in line with the Ministry of Labour policy objective);
- specific:
  - . to monitor the quality of self-instruction materials;
  - . to monitor the quality of the tutoring system in the context of self-instruction;
  - . to monitor the coherence of the planned timing, scope, instruments and objectives;
  - . to monitor the project/course organizational methods.

e. Information sheets

Information on the seven pilot projects, ending in late 1987, is set out in tabular form in the pages that follow.

AGENCY AND SCHEME	IS THE SCHEME IN LINE WITH - OBJECTIVES? - CONTENT?	IS THE SCHEME IN LINE WITH PRESCRIBED CONSTRAINTS?	DOES THE SCHEME SATISFY DISTANCE TRAINING CRITERIA?	OVERALL COST - PLANNING - MANAGEMENT	DURATION OF COURSE
ACCADEMIA "LEARNING ENGLISH"	- General and specific objectives of the scheme correspond to specifications: . building up vocabulary . commercial correspondence tasks . compilation of forms in office work . short conversations on technical and specialist topics - Content corresponds and is grouped in 24 units in 3 areas: . professional situations (6) . business (6) . commerce and correspondence (6)	- No. users: 50 (aged 30/40) - User requirements: middle managers (middle/senior level) - Test area Pomezia and Aprile - In-house evaluation from the point of view of: . debugging . training content . overview - Final validation c/o firms (certification)	- Interactive system consolidated . booklets . audiocassettes . tutors . telephone tutoring - Meeting with tutors every fortnight - 6 booklets with 24 units - 6 exercise booklets - 6 audiocassettes	- Overall cost: L. 243 050 000 (*) of which: . 15% on design . 85% on running the experiment - Running cost: assuming 500 users the cost is: L. 1 029 000 000 (per capita cost L. 2 058 000) (*) The Ministry grant will be based, however, on the initial estimate (L. 235 650 000)	Study chiefly at home: . 2 hours per day for 7 days - Experimental course lasting 4/5 months a total of 144 hrs + 60 hrs exercises - Seminars: 40 hrs

AGENCY AND SCHEME	IS THE SCHEME IN LINE WITH - OBJECTIVES? - CONTENT?	IS THE SCHEME IN LINE WITH PRESCRIBED CONSTRAINTS?	DOES THE SCHEME SATISFY DISTANCE TRAINING CRITERIA?	OVERALL COST - PLANNING - MANAGEMENT	DURATION OF COURSE
CNITE "COMPANY MANAGEMENT"	- General and specific objectives do correspond - Content to satisfy two requirements: . rationalizing the efficiency/effectiveness of SMEs through modern company management techniques . creating conditions allowing this rationalization to to take place through the use of information technology	- Users: 50 SME administrators - Test area: Agro Pontino and Crotonese area - In-house evaluation . at entry level . at intermediate level . at final level - Evaluation trials will be . Training content . Overview	- Satisfactory distance training process: . multimedia teaching materials . tutors . seminars . simulation games - Reference centres with multimedia equipment	- Overall cost: L. 236,050,000 of which: . 30% on design . 70% on administration - No estimate of running costs	- The experimental course: 100 hrs including: . 50 hrs independent study . 20 hrs computer exercises . 10 hrs "self" and "other" evaluation . 5 tutorials . 15 seminars - the modular course contains 10 teaching units

AGENCY AND SCHEME	IS THE SCHEME IN LINE WITH - OBJECTIVES? - CONTENT?	IS THE SCHEME IN LINE WITH PRESCRIBED CONSTRAINTS?	DOES THE SCHEME SATISFY DISTANCE TRAINING CRITERIA?	OVERALL COST - PLANNING - MANAGEMENT	DURATION OF COURSE
DI/DAEL "LEARNING ENGLISH"	- General and specific objectives: correspond - Content broken down down into 3 self-contained modules which can, however, be used simultaneously . basic English . intermediate English . English for business and banking	- No. users: 50 (*) administrators - Test area Lombardy - In-house evaluation: . training content . overview (*) For reasons of of cost 35 users have been proposed, to keep within the initial budget	- Interactive system corresponding: . texts . documentation . audiocassettes . video cassettes . PC teaching software . tutorial system: via modem and/or correspondence . group tutorial meetings - Study at home and at work	- Overall cost: L. 218 177 499 (*) of which: . 65% on design . 35% on administration - Running cost: . L. 4 081 500 per pupil and for the 3 levels . L 10 560,000 teaching staff costs (*) Calculated on the basis of 35 users	Experimental course: 6 months are envisaged for the 3 levels - 240/250 hrs total - Seminars: 40 hrs - Tutor employed 50 hrs per month for 6 months

AGENCY AND SCHEME	IS THE SCHEME IN LINE WITH - OBJECTIVES? - CONTENT?	IS THE SCHEME IN LINE WITH PRESCRIBED CONSTRAINTS?	DOES THE SCHEME SATISFY DISTANCE TRAINING CRITERIA?	OVERALL COST - PLANNING - MANAGEMENT	DURATION OF COURSE
DIDANOVA "COMPANY MANAGEMENT"	- General and specific objectives: correspond - Content centred on administration and accounting concepts . use of PCs . accounting and technical commercial concepts . automated accounting procedures . use of OPT as a aid in business and financial decision-making	- No. users: 50 middle managers: . new graduates . people with basic accounting skills - Test area: firms in the province of Naples - In-house evaluation Yes, centred on four objectives: . course attendance levels . trainee judgments . learning and new attitudes . correlation between objectives and results	- Interactive system: . CAI materials . case studies . exercises . test/simulation . tutor system . planned progress meetings - Self-instruction stage - Assistance stage - Comparison stage - Study at home and/or at work	- Overall cost: L. 268 000 000 of which: . some 60% on design . 35% on running the experiment - Running cost: . Initial estimate: L. 3 600 000 per participant	Experimental course overall duration 200 hrs over 5-6 months - 2 hrs per day - 12 validation 4 seminars - 156 hrs PC - 32 hrs study of the manual

AGENCY AND SCHEME	IS THE SCHEME IN LINE WITH - OBJECTIVES? - CONTENT?	IS THE SCHEME IN LINE WITH PRESCRIBED CONSTRAINTS?	DOES THE SCHEME SATISFY DISTANCE TRAINING CRITERIA?	OVERALL COST - PLANNING - MANAGEMENT	DURATION OF COURSE
DIOIKEMA "COMPANY MANAGEMENT"	- General and specific objectives: correspond (*) - Content centred around 4 blocks: . introduction to company computing . management modules on the potential of computers in company management . company computer systems (case studies) . use of applications packages (*) Part of the scheme run jointly with METROTEC	- No. users: 50 (*) administrators (aged 25-30) - Test area: Province of Bologna - In-house evaluation Yes, in four areas: . individual learning . changes within firms . participants' reaction . cost/benefit ratio	- Interactive system: . CAI teaching software . texts, documents . audiocassettes . coordination group . system of tutoring by appointment and telephone advice at weekly intervals at least - Reference laboratory facility - Individual study at home and/or work	- Overall cost: L. 245 000 000 of which: . 45% on design . 55% on administration - Running cost: . a cost 60-70% lower than the overall cost is envisaged for 50 trainees	Experimental course lasting a total of 160 hrs over 4 months - Seminar work envisaged for some 20 hrs.

AGENCY AND SCHEME	IS THE SCHEME IN LINE WITH - OBJECTIVES? - CONTENT?	IS THE SCHEME IN LINE WITH PRESCRIBED CONSTRAINTS?	DOES THE SCHEME SATISFY DISTANCE TRAINING CRITERIA?	OVERALL COST - PLANNING - MANAGEMENT	DURATION OF COURSE
METROTEC **"COMPANY MANAGEMENT"**	- General and specific objectives: correspond (*) - Content centred on two areas: . management content planning, financial resources, marketing, aspects of tax, computers . technical content: computing and technology (*) Part of the scheme run jointly with METROTEC	- No. users: 50 middle managers in companies and small businessmen - Test area: metropolitan Turin - In-house evaluation: Yes, in the areas of: . learning process . intermediate and final validation . cost/benefit analysis	- Interactive system corresponding: . computer laboratory with 10 PCs . video recorders . video players . archive . tutorial system by meetings and telephone network . personalized curricula	- Overall cost: L. 193,000,000 of which: . 75% on design . 25% on administration - Running cost: . L. 42,255,000 estimated for 50 trainees	Experimental course Total of 176 hrs over 4 months . 30% group study (meetings, seminars) . 70% individual study at home or at work

AGENCY AND SCHEME	IS THE SCHEME IN LINE WITH - OBJECTIVES? - CONTENT?	IS THE SCHEME IN LINE WITH PRESCRIBED CONSTRAINTS?	DOES THE SCHEME SATISFY DISTANCE TRAINING CRITERIA?	OVERALL COST - PLANNING - MANAGEMENT	DURATION OF COURSE
PRAGMA "COMPANY MANAGEMENT"	- General and specific objectives: correspond (*) - Content broken down down into 8 modules: . course introduction . aspects of computing . general accounting . balance sheet analysis . reclassification . quotient methods . reading of company information by quotients . flow methods . quotients and flows as forward analysis tools (*) Place more emphasis on the computing side	- No. users: 50 administrators of average to high educational standard (accountants) - Test area Veneto - In-house evaluation: Yes, in the areas of: . training outcome (learning and attitudes) . the experimental level with the task of establishing an information channel producing useful feedback for the calibration and redesign of the course	- Interactive system corresponding: . texts, documents . PC teaching software . assistance by tutors . hot-line link with trainees . university teaching staff as scientific back-up	- Overall cost: L. 233,000,000 of which: . 65% on design . 35% on administration - expenditure of about 20-25% of the cost of the prototype is expected for making the scheme operational	Experimental course: 119 hrs in total (8+1 hrs teaching modules) - 21 hrs study on PC - 70 hrs additional study - 12 hrs seminars - 8 hrs plenary sessions - 8 hr introduction and summing-up

4. CONCLUSIONS

The conclusions on the situation in Italy have deliberately been kept brief. It has already been pointed out that:

- there is a fairly clear-cut emerging demand for training in general among SMEs;
- this demand could be directed towards new training methods more along the lines of open learning and distance training methods;
- distance training schemes are at present few and far between, although a fair number of significant schemes are currently being designed and tested.

We know that supply shapes demand and that the current traditional classroom-based training (residential courses) creates major problems for firms, to which there is no easy solution; training based on open, more flexible methods raises a number of other problems, but in working terms they may be easier to solve.

This poses a new set of problems for those responsible for training policy, especially vocational training.

Vocational training must play a full part in the changing economic and social context, reflecting society's goals, attitudes and styles of work on both the demand and the supply side.

There is a need for comparative and experimental work:

- on the whole diversity of trainees and training resources, locations and methods;
- on the growth of the service industry and the languages it uses;
- on the pressure for continuing innovation and growing internationalization;
- and also on the proper response to the greater freedom from constraint in Italy - in the company and family and among individuals.

Everyone today is responsible for performing his or her part well. In what is an increasingly multipolar situation, a contribution must be made to the development of a genuine, efficient training system by:

- more accurately defining what is needed and what is available (from the viewpoint of the State, the public-sector body, the company, the association, etc.);
- defining the guarantees of quality so that we can advance quickly from a teaching-based approach to an approach based on the user's learning problems, whatever form these may take and wherever they occur; achievement of the end goal is more important than the process used.

If this approach is taken, distance training can play an important, socially productive role as a new way of meeting SMEs' specific training needs. Nevertheless,

- vocational training schemes setting a standard of excellence must be arranged, putting into practice the principle that training should be personalized, high calibre and in the service sector;
- public- and/or private-sector training must include quality distance training schemes for SMEs as well; the emerging and potential demand can be shaped only by a sound, high-quality and achievable "supply" of training;
- better cooperation is needed among those in charge (planners and/or providers and/or managers) of distance training in EEC Member States, leading to:
  - . opportunities for the pooling of experience with distance training for SMEs in similar socio-economic contexts;
  - . opportunities for practical Community schemes which, through small-scale meetings and seminars, will reinforce and test out new ideas and new interpretations of the provision of training for human resources.

ENCLOSURE 1

NAMES OF PEOPLE/AGENCIES INTERVIEWED

NAMES OF CONTRIBUTORS TO THE RESEARCH

A) **LIST OF "EXPERT WITNESSES" INTERVIEWED**

1. GIUSEPPE CACOPARDI, Director General, Ministry of Labour (Vocational Guidance and Training)
   Via Castelfidardo 43, ROME

2. GIOVANNI SATTA, Head of Training, Confindustria
   Viale dell'Astronomia 30, ROME

3. DANIELA PICCIONE, Director of ECIPA (Ente Confederale Istruzione Professionale e Artigianato - Confederal agency for vocational and craft instruction)
   Via S. Prassede 24, ROME

4. ROBERTO SPOSATO, Head of CONFAPI (Confederazione Italiana della Piccola e Media Industria - Italian confederation for small and medium-sized industry) and manager of publishing firm Giunti/Marzocco.

5. GIOVANNI GRANDE, Head of teaching programs in the firm of ACCADEMIA (Centro di Ricerca e Programmazione per l'insegnamento a distanza - Distance training research and planning centre).
   Via G.V.Englen 25, ROME

6. GIANNI MARCONATO, Director, ISVOA (Istituto per lo Sviluppo Organizzativo dell'Artigianato - Institute for the organizational development of craft industries)
   Piazza Venezia 11, ROME

7. MANUEL GUTIEREZ, Director of Training and Research, ENAIP (Ente Nazionale ACLI Istruzione Professionale - Italian Christian Workers Associations- National agency for vocational instruction)
   Via Marcora 18/20, ROME

8. MATTEO VITA, Chairman of ANCIFAP (Associazione Nazionale Centri IRI Formazione Addestramento Professionale - IRI national association for vocational and manual training)
   Piazza della Repubblica 59, ROME

9. GIORGIO PANIZZI, Director General, CNITE (Centro Nazionale Italiano Tecnologie Educative - Italian national centre for educational technology)
   Via Marche 84, ROME

10. MICHELE PELLEREY, Head of Faculty of Educational Science, Università Pontificia Salesiana, and professor of teaching methodology
Piazza Ateneo Salesiano 1, ROME

11. GIAMPAOLO BONANI, Director, IREF (Istituto di Ricerche Educative e Formative - Institute of Educational and Training Research)
Via Marcora 18/20, ROME

12. BENEDETTO VERTECCHI, Director of Department of Educational Science, Teaching Facultry, University of Rome
Piazza della Repubblica, ROME

13. DUERO ROSSI, Head of training, FORMEZ (Centro di Formazione e Studi per il Mezzogiorno - Training and Research Centre for Southern Italy)
Via Salaria 229, ROME

14. SAUL MEGNAGI, Researcher, IRES-CGIL (Istituto Ricerche Economiche e Sociali - Confederazione Generale Italiana del Lavoro - Institute of economic and social research - Italian General Confederation of Labour)
Corso d'Italia 25, ROME

15. PAOLO PERINO, Head of training, ASSEFOR (Associazione di Promozione e Formazione per le Piccole e Medie Imprese - Association for the promotion of and training for small and medium-sized enterprise)
Via Faenza 109, FLORENCE

16. ROMANI TOPPANI, Official at Centro Europeo dell'Artigianato (European Craft Centre)
VENICE

17. GIANNI LATESSA, Official at IASM (Istituto per l'Assistenza allo Sviluppo del Mezzogiorno - Institute for support for development in Southern Italy)
Viale Pilsudski 124, ROME

18. CARLO DESANA, Official at Federazione Industriale Piemontese (Piedmont industrial federation)
TURIN

19. SAMUELE BAIO, Director, DIDANOVA (Agenzia Nuove Tecnologie Formative - new training technologies agency)
Via Ferri 6, CINISELLO BALSAMO (Milan)

20. EUGENIO NOCE, Head of marketing, METROTEC (Tecnologie Metropolitane del Comune di Torino - metropolitan technologies for the Commune of Turin), Department of Labour and Vocational Training
Via Ventimiglia 201, TURIN

21. LUIGI ANGELINO, Head of PRAGMA-SOFTWARE (Training Agency),
Via C. Scalzi 20, VERONA

22. FRANCO SALA, Councillor for Vocational Training, Region of Lombardy
MILAN

23. GIANNI BELLINI, Head of Right to Study, Vocational Guidance and Permanent Education, Region of Lombardy
MILAN

24. ORESTE GUALANDI, Official at Department of Labour, Region of Lombardy
MILAN

25. DOMENICO TURRI, President of Associazione Artigiani Regionale (Lombardy Regional Association of Craft Industries)
MILAN

26. MARIO REGUZZONI, Head of Training at OPPI (Agenzia per la Formazione e l'Aggiornamento degli Insegnanti - Agency for the training and refresher training of teachers)
Via Orseolo 1, MILAN

27. GIUSEPPE MARANGONI, Head of vocational training for craft industries, OPPI
MILAN

28. GIANNA MARTINENGO, Director of DIDA/EL (Società per la Didattica con Elaboratore - computer-aided teaching company)
Via Lamarmora 3/A, MILAN

29. CLAUDIO DONDI, DIOIKEMA, head of training design department
Via S. Stefano 16, BOLOGNA

30. GIULIANO GOTTI, Director General, Associazione Industriale Provincia di Bologna (Industrial Association for the Province of Bologna)
Via S. Domenico 4, BOLOGNA

31. Two officials from Assolombarda
Via Pantona 9, 20122 MILAN

B9 CONTRIBUTORS TO THE RESEARCH

The survey/research was conducted by CENSIS (the person in charge being Cladio Bucciarelli)

Two outside consultants worked on the interviews with the experts: Claudia Montedoro and Emma Zanlucchi.

ENCLOSURE 2

MINI-GLOSSARY

BIBLIOGRAPHY

MINI-GLOSSARY

- Company organization "information system": the information resources and channels, used as management aids, whereby data are compiled and transmitted for the furtherance of the organization, both day-to-day and in planning its growth.

- "Redevelopment" of a set of companies: changing a model of development by adapting the structure of the production apparatus in the light of actual or potential market demand.

- "Flow diagram" for the rationalization of production processes: a predetermined sequence of operations and moves, indicated by specific symbols, to be followed by an object in the course of a production process.

- "Retraining" company employees: adapting their skills, through ad hoc training, to new technology and production changes in the company.

- Refresher training, in the context of continuing education, is the final phase of training, the purpose being to keep the practitioner abreast of progress. Refresher training is not just a useful return to the sources of knowledge to sharpen up skills whose edges may have been blunted by use and habit, but also a need generated by the obsolescence of a person's accumulated store of knowledge and techniques at a time when, due to change and discoveries, they are rapidly being superseded.

P.S. Those items that have been included in the appendix to the Cedefop case study matrix have not been listed above.

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Claudio Bucciarelli

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European Centre for the Development of Vocational Training,
Bundesallee 22, **D-1000 Berlin 15,**
Tel. (0 30) 88 41 20; Telex 184 163 eucen d: Telefax 88 41 22 22

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